## The Presence of Colchicine Alkaloids in *Kreysigia multiflora* Reichb.

Earlier investigations[1-7] have shown that the colchicine group of alkaloids (alkaloids with tropolone ring) are present in all the genera of the subfamily Wurmbaeoideae[8,9] (Family Liliaceae), i.e. the genera Gloriosa, Littonia, Sandersonia, Ornithoglossum, Iphigenia, Camptorrhiza, Baeometra, Colchicum, Bulbocodium, Androcymbium, Dipidax, Wurmbea and Anguillaria; the plants of the genus Neodregea of this subfamily have not been investigated as yet. Colchicine alkaloids have not so far been detected in other plant genera[10]. While carrying out a comparative study of the anatomy of the plants of the subfamily Melanthioideae (from which he subsequently excluded[8] the subfamily Wurmbaeoideae), BUXBAUM[11] recalled the genus of the Australian plant *Kreysigia*[12] (Family Liliaceae). He did not, however, study the plant *Kreysigia* more closely because of lack of material.

Recently BADGER and BRADBURY[13] isolated 4 alkaloids lacking a tropolone ring from *Kreysigia multiflora*. The properties of these alkaloids (UV-spectra, number of carbon atoms in the skeleton) resemble those of the non-tropolone alkaloids present in some plants[1-7] of the subfamily Wurmbaeoideae which occur in association with tropolone alkaloids and are their precursors[14-16]. Accordingly, *K. multiflora* was examined for colchicine and its relatives. The separation (with chloroform) of the extract obtained from dried material (110 g) of the whole plant *K. multiflora* into a neutral-phenolic (0.33%) and a basic portion (0.81%) was followed by chromatography on alumina. This showed that the neutral phenolic fraction contained the alkaloids colchicine (yield 27 mg, m.p. 154–156 °C, $[\alpha]_D^{22} - 121 \pm 2°$ in chloroform) and N-formyl-N-deacetylcolchicine (yield 60 mg, m.p. 264–267 °C, $[\alpha]_D^{22} - 173 \pm 2°$ in chloroform); the basic portion contained the non-tropolone alkaloids which were isolated earlier[13] and, in all probability, a small quantity of N-methyldemecolchicine[5] (evidence obtained only from thin layer chromatography)[17].

These results show that the colchicine group of alkaloids is present not only in plants of the subfamily Wurmbaeoideae but also in the related genus *Kreysigia* where they had not previously been recognized. Thus, chemotaxonomic support is provided for the relationship of the genus *Kreysigia* to the genera of the subfamily Wurmbaeoideae[8].

*Zusammenfassung.* Die Isolierung der Alkaloide Colchicin und N-Formyl-N-desacetylcolchicin aus *Kreysigia multiflora* wird beschrieben.

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## Evidence of Genetic Control of Blood Potassium Type in the Marwari Breed of Sheep in India

On the basis of concentration of potassium in the blood, sheep can be classified into high (HK) and low (LK) potassium types[1-3]. Available information[1] indicates that potassium types are genetically controlled by a single gene in which LK is dominant over HK. However, similar investigations[2] conducted on American breeds did not clarify the exact mode of inheritance, although the results did not contradict the suggestion of a single Mendelian gene. Evidence[4] is also available which suggests that potassium types in Australian merino is governed by multiple genes. In the absence of definite information on the genetic control of potassium types, the present study on one of the Indian breeds (Marwari) was undertaken particularly in view of the fact that information on this breed is lacking and also because potassium types have adaptive significance[5].

The concentration of potassium in the blood of 102 Marwari sheep (4 sires, 49 dams and 49 progeny) was estimated using an 'EEL' photometer by the method described by KING and WOOTTON[6]. The number and potassium types of progeny resulting from various

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